

**SAF-RC-048**  
**100 Area and 300 Area Component of the**  
**RCBRA Water Sampling**  
**FINAL DATA PACKAGE**

**COMPLETE COPY OF DATA PACKAGE TO:**

**Jill Thomson**

H0-23

NB 5/22/06  
INITIAL/DATE

Jeanette Duncan

H9-02

NB 5/22/06  
INITIAL/DATE

**COMMENTS:**

SDG K0277**SAF-RC-048**

Rad only

**X Chem only**

Rad &amp; Chem

**X Complete**

## Partial

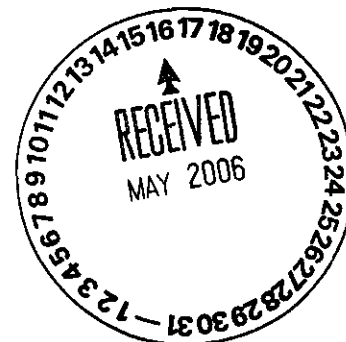
## Waste Site: Water Equipment Blank

**RECEIVED**  
MAY 31 2006  
**EDMC**



15 May 2006

Joan Kessner  
WC-Hanford  
3190 Washington Way  
MSIN H9-03  
Richland, WA 99354



**Subject:** Analytical Data Package

Dear Ms. Kessner:

Enclosed are the hard copy analytical reports for the batch number/fraction indicated (marked X) in the following table:

|               |          |
|---------------|----------|
| LvLI Batch #  | 0603L617 |
| SDG #         | K0277    |
| SAF #         | RC-048   |
| Date Received | 3/28/06  |
| # Samples     | 1        |
| Matrix        | WATER    |
| Volatiles     |          |
| Semivolatiles |          |
| Pest/PCB      | X        |
| PAH           |          |
| DRO/KRO/GRO   |          |
| GC Alcohols   |          |
| Herbicides    |          |
| Metals        | X        |
| Inorganics    |          |

The electronic data deliverable (EDD) will be emailed shortly. If you have any questions, please don't hesitate to contact me at (610) 280-3012.

Sincerely,  
Lionville Laboratory Incorporated

Orlette S. Johnson  
Project Manager

r:\group\pm\orlette\tnu-hanford\data\b\_ltrs.doc

Lionville Laboratory, Inc.  
INORGANIC ANALYTICAL DATA PACKAGE FOR  
TNUHANFORD RC-048 K0277



DATE RECEIVED: 03/28/06

LVL LOT # :0603L617

| CLIENT ID /ANALYSIS | LVL # | MTX | PREP #  | COLLECTION | EXTR/PREP | ANALYSIS |
|---------------------|-------|-----|---------|------------|-----------|----------|
| J11234              |       |     |         |            |           |          |
| SILVER, TOTAL       | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| ALUMINUM, TOTAL     | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| ARSENIC, TOTAL      | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| BORON, TOTAL        | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| BARIUM, TOTAL       | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| BERYLLIUM, TOTAL    | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| BISMUTH, TOTAL      | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| CALCIUM, TOTAL      | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| CADMIUM, TOTAL      | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| COBALT, TOTAL       | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| CHROMIUM, TOTAL     | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| COPPER, TOTAL       | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| IRON, TOTAL         | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| MERCURY, TOTAL      | 001   | W   | 06C0057 | 03/23/06   | 03/29/06  | 03/30/06 |
| POTASSIUM, TOTAL    | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| LITHIUM, TOTAL      | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| MAGNESIUM, TOTAL    | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| MANGANESE, TOTAL    | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| MOLYBDENUM, TOTAL   | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| SODIUM, TOTAL       | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| NICKEL, TOTAL       | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| PHOSPHORUS, TOTAL   | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| LEAD, TOTAL         | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| ANTIMONY, TOTAL     | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| SELENIUM, TOTAL     | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| SILICON, TOTAL      | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| TIN, TOTAL          | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| STRONTIUM, TOTAL    | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| THALLIUM, TOTAL     | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| URANIUM, TOTAL      | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| VANADIUM, TOTAL     | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |
| ZINC, TOTAL         | 001   | W   | 06L0195 | 03/23/06   | 03/30/06  | 04/03/06 |

LAB QC:

|                   |        |   |         |     |          |          |
|-------------------|--------|---|---------|-----|----------|----------|
| SILVER LABORATORY | LC1 BS | W | 06L0195 | N/A | 03/30/06 | 04/03/06 |
|-------------------|--------|---|---------|-----|----------|----------|

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Lionville Laboratory, Inc.  
INORGANIC ANALYTICAL DATA PACKAGE FOR  
TNUHANFORD RC-048 K0277

DATE RECEIVED: 03/28/06

LVL LOT # :0603L617

| CLIENT ID /ANALYSIS  | LVL #  | MTX | PREP #  | COLLECTION | EXTR/PREP | ANALYSIS |
|----------------------|--------|-----|---------|------------|-----------|----------|
| SILVER, TOTAL        | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| ALUMINUM LABORTORY   | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| ALUMINUM, TOTAL      | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| ARSENIC LABORATORY   | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| ARSENIC, TOTAL       | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| BORON LABORATORY     | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| BORON, TOTAL         | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| BARIUM LABORATORY    | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| BARIUM, TOTAL        | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| BERYLLIUM LABORATORY | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| BERYLLIUM, TOTAL     | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| BISMUTH, LCS         | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| BISMUTH, TOTAL       | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| CALCIUM LABORATORY   | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| CALCIUM, TOTAL       | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| CADMIUM LABORATORY   | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| CADMIUM, TOTAL       | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| COBALT LABORATORY    | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| COBALT, TOTAL        | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| CHROMIUM LABORATORY  | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| CHROMIUM, TOTAL      | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| COPPER LABORATORY    | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| COPPER, TOTAL        | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| IRON LABORATORY      | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| IRON, TOTAL          | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| MERCURY LABORATORY   | LC1 BS | W   | 06C0057 | N/A        | 03/29/06  | 03/30/06 |
| MERCURY, TOTAL       | MB1    | W   | 06C0057 | N/A        | 03/29/06  | 03/30/06 |
| MERCURY, TCLP LEACHA | MB2    | W   | 06C0057 | N/A        | 03/29/06  | 03/30/06 |
| POTASSIUM LABORATORY | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| POTASSIUM, TOTAL     | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| LITHIUM LABORATORY   | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| LITHIUM, TOTAL       | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| MAGNESIUM LABORATORY | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| MAGNESIUM, TOTAL     | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| MANGANESE LABORATORY | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| MANGANESE, TOTAL     | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| MOLYBDENUM LABORATOR | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| MOLYBDENUM, TOTAL    | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |

Lionville Laboratory, Inc.  
INORGANIC ANALYTICAL DATA PACKAGE FOR  
TNUHANFORD RC-048 K0277

DATE RECEIVED: 03/28/06

LVL LOT # :0603L617

| CLIENT ID /ANALYSIS | LVL #  | MTX | PREP #  | COLLECTION | EXTR/PREP | ANALYSIS |
|---------------------|--------|-----|---------|------------|-----------|----------|
| SODIUM LABORATORY   | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| SODIUM, TOTAL       | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| NICKEL LABORATORY   | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| NICKEL, TOTAL       | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| PHOSPHORUS LCS      | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| PHOSPHORUS, TOTAL   | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| LEAD LABORATORY     | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| LEAD, TOTAL         | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| ANTIMONY LABORATORY | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| ANTIMONY, TOTAL     | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| SELENIUM LABORATORY | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| SELENIUM, TOTAL     | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| SILICON LABORATORY  | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| SILICON, TOTAL      | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| TIN LABORATORY      | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| TIN, TOTAL          | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| STRONTIUM LCS STAND | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| STRONTIUM, TOTAL    | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| THALLIUM LABORATORY | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| THALLIUM, TOTAL     | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| URANIUM LABORATORY  | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| URANIUM, TOTAL      | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| VANADIUM LABORATORY | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| VANADIUM, TOTAL     | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| ZINC LABORATORY     | LC1 BS | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |
| ZINC, TOTAL         | MB1    | W   | 06L0195 | N/A        | 03/30/06  | 04/03/06 |

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## Analytical Report

**Client:** TNU-HANFORD RC-048  
**LVL#:** 0603L617  
**SDG/SAF#:** K0277/RC0-048

**W.O.#:** 11343-606-001-9999-00  
**Date Received:** 03-28-06

### METALS CASE NARRATIVE


The following is a summary of the QC results accompanying the sample results. Lionville Laboratory (LvLI) certifies that all test results meet the requirements of NELAC except as noted below.

1. This narrative covers the analysis of 1 water sample.
2. The samples were prepared and analyzed in accordance with methods checked on the attached glossary. The sample was reported from a different instrument for Aluminum, Beryllium, Calcium, Iron, Magnesium, Manganese, Potassium, Phosphorous, and Sodium due to sample matrix.
3. All analyses were performed within the required holding times.
4. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits (80-120% for Mercury).
5. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within control limits (less than the PQL).
6. All preparation/method blanks (MB) were within method criteria {less than the Practical Quantitation Limit (3X the IDL), or samples greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.
7. All ICP Interference Check Standards were within control limits.
8. All laboratory control samples (LCS) were within the 80-120% control limits. Refer to the Inorganics Laboratory Control Standards Report.
9. All matrix spike (MS) and duplicate analyses were performed on TNU-HANFORD RC-048, LvLI# 0603L754 due to limited sample volume in this batch.
10. For the purposes of this report, the data has been reported to the Instrument Detection Limit (IDL). Values between the IDL and the Practical Quantitation Limit (PQL) are acquired in a

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 13 pages.

region of less-certain quantification.

11. LvLI is NELAP accredited by the state of Pennsylvania and holds over 20 additional state accreditations. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.
12. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

  
Iain Daniels  
Laboratory Manager  
Lionville Laboratory Incorporated

jjw/m03-617

5/12/06  
Date



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# METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within the

Lot#: 06032617

Leaching Procedure: 1310 1311 1312 Other:

CLP Metals Digestion and Analysis Methods: ILM03.0 ILM04.0

Metals Digestion Methods: 3005A 3010A 3015 3020A 3050B 3051 200.7 SS17  
Other:

## Metals Analysis Methods

|             | SW846         | EPA               | STD MTD | EPA<br>OSWR | USATHAMA |
|-------------|---------------|-------------------|---------|-------------|----------|
| Aluminum    | X 6010B       | 200.7             |         |             | 99       |
| Antimony    | X 6010B 7041  | 200.7 204.2       |         |             | 99       |
| Arsenic     | X 6010B 7060A | 200.7 206.2       | 3113B   |             | 99       |
| Barium      | X 6010B       | 200.7             |         |             | 99       |
| Beryllium   | X 6010B       | 200.7             |         |             | 99       |
| Bismuth     | X 6010B       | 200.7             |         | 1620        | 99       |
| Boron       | X 6010B       | 200.7             |         |             | 99       |
| Cadmium     | X 6010B 7131A | 200.7 213.2       |         |             | 99       |
| Calcium     | X 6010B       | 200.7             |         |             | 99       |
| Chromium    | X 6010B 7191  | 200.7 218.2       |         |             | SS17     |
| Cobalt      | X 6010B       | 200.7             |         |             | 99       |
| Copper      | X 6010B 7211  | 200.7 220.2       |         |             | 99       |
| Iron        | X 6010B       | 200.7             |         |             | 99       |
| Lead        | X 6010B 7421  | 200.7 239.2       | 3113B   |             | 99       |
| Lithium     | X 6010B 7430  | 200.7             |         | 1620        | 99       |
| Magnesium   | X 6010B       | 200.7             |         |             | 99       |
| Manganese   | X 6010B       | 200.7             |         |             | 99       |
| Mercury     | X 7470A 7471A | 245.1 245.5       |         |             | 99       |
| Molybdenum  | X 6010B       | 200.7             |         |             | 99       |
| Nickel      | X 6010B       | 200.7             |         |             | 99       |
| Potassium   | X 6010B 7610  | 200.7 258.1       |         |             | 99       |
| Rare Earths | X 6010B       | 200.7             |         | 1620        | 99       |
| Selenium    | X 6010B 7740  | 200.7 270.2       | 3113B   |             | 99       |
| Silicon     | X 6010B       | 200.7             |         | 1620        | 99       |
| Silica      | X 6010B       | 200.7             |         | 1620        | 99       |
| Silver      | X 6010B 7761  | 200.7 272.2       |         |             | 99       |
| Sodium      | X 6010B 7770  | 200.7 273.1       |         |             | 99       |
| Strontium   | X 6010B       | 200.7             |         |             | 99       |
| Thallium    | X 6010B 7841  | 200.7 279.2 200.9 |         |             | 99       |
| Tin         | X 6010B       | 200.7             |         |             | 99       |
| Titanium    | X 6010B       | 200.7             |         |             | 99       |
| Uranium     | X 6010B       | 200.7             |         | 1620        | 99       |
| Vanadium    | X 6010B       | 200.7             |         |             | 99       |
| Zinc        | X 6010B       | 200.7             |         |             | 99       |
| Zirconium   | X 6010B       | 200.7             |         | 1620        | 99       |

Other: Phosphorus

Method: 6010B

# METHOD REFERENCES AND DATA QUALIFIERS

## DATA QUALIFIERS

U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.

\* = Indicates that the original sample result is greater than 4x the spike amount added.

## ABBREVIATIONS

MB = Method or Preparation Blank.

MS = Matrix Spike.

MSD = Matrix Spike Duplicate.

REP = Sample Replicate

LCS = Laboratory Control Sample.

NC = Not calculated.

## ANALYTICAL METAL METHODS

1. Not included in the method element list.
2. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, approximately 0.3 grams of sample is taken to a final volume of 50 mL (including all reagents).
3. Flame AA.
4. Graphite Furnace AA.

L-WI-033/N-04/98

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 05/11/06

CLIENT: TNUHANFORD RC-048 K0277

LVL LOT #: 0603L617

WORK ORDER: 11343-606-001-9999-00

| SAMPLE | SITE ID | ANALYTE           | RESULT | UNITS  | REPORTING<br>LIMIT | DILUTION<br>FACTOR |
|--------|---------|-------------------|--------|--------|--------------------|--------------------|
| =====  | =====   | =====             | =====  | =====  | =====              | =====              |
| -001   | J11234  | Silver, Total     | 0.70   | u UG/L | 0.70               | 1.0                |
|        |         | Aluminum, Total   | 221    | UG/L   | 23.6               | 1.0                |
|        |         | Arsenic, Total    | 6.1    | u UG/L | 6.1                | 1.0                |
|        |         | Boron, Total      | 14.6   | UG/L   | 2.4                | 1.0                |
|        |         | Barium, Total     | 4.8    | UG/L   | 0.20               | 1.0                |
|        |         | Beryllium, Total  | 0.21   | UG/L   | 0.20               | 1.0                |
|        |         | Bismuth, Total    | 5.1    | u UG/L | 5.1                | 1.0                |
|        |         | Calcium, Total    | 2120   | UG/L   | 21.9               | 1.0                |
|        |         | Cadmium, Total    | 0.70   | u UG/L | 0.70               | 1.0                |
|        |         | Cobalt, Total     | 1.4    | u UG/L | 1.4                | 1.0                |
|        |         | Chromium, Total   | 1.3    | u UG/L | 1.3                | 1.0                |
|        |         | Copper, Total     | 1.2    | u UG/L | 1.2                | 1.0                |
|        |         | Iron, Total       | 31.1   | UG/L   | 5.4                | 1.0                |
|        |         | Mercury, Total    | 0.10   | u UG/L | 0.10               | 1.0                |
|        |         | Potassium, Total  | 771    | u UG/L | 771                | 1.0                |
|        |         | Lithium, Total    | 0.51   | UG/L   | 0.20               | 1.0                |
|        |         | Magnesium, Total  | 89.3   | UG/L   | 39.1               | 1.0                |
|        |         | Manganese, Total  | 3.2    | u UG/L | 3.2                | 1.0                |
|        |         | Molybdenum, Total | 2.9    | u UG/L | 2.9                | 1.0                |
|        |         | Sodium, Total     | 5140   | UG/L   | 25.1               | 1.0                |
|        |         | Nickel, Total     | 2.4    | u UG/L | 2.4                | 1.0                |
|        |         | Phosphorus, Total | 9.0    | u UG/L | 9.0                | 1.0                |
|        |         | Lead, Total       | 3.1    | u UG/L | 3.1                | 1.0                |
|        |         | Antimony, Total   | 4.4    | u UG/L | 4.4                | 1.0                |
|        |         | Selenium, Total   | 4.7    | u UG/L | 4.7                | 1.0                |
|        |         | Silicon, Total    | 9520   | UG/L   | 22.7               | 1.0                |
|        |         | Tin, Total        | 17.5   | UG/L   | 10.7               | 1.0                |
|        |         | Strontium, Total  | 3.9    | UG/L   | 0.10               | 1.0                |
|        |         | Thallium, Total   | 7.0    | u UG/L | 7.0                | 1.0                |
|        |         | Uranium, Total    | 8.8    | u UG/L | 8.8                | 1.0                |
|        |         | Vanadium, Total   | 0.90   | u UG/L | 0.90               | 1.0                |
|        |         | Zinc, Total       | 1.7    | UG/L   | 1.6                | 1.0                |

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Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 05/11/06

CLIENT: TNUHANFORD RC-048 K0277

LVL LOT #: 0603L617

WORK ORDER: 11343-606-001-9999-00

| SAMPLE | SITE ID     | ANALYTE                | RESULT | UNITS  | REPORTING<br>LIMIT | DILUTION<br>FACTOR |
|--------|-------------|------------------------|--------|--------|--------------------|--------------------|
| *****  | *****       | *****                  | *****  | *****  | *****              | *****              |
| BLANK1 | 06L0195-MB1 | Silver, Total          | 0.70   | u UG/L | 0.70               | 1.0                |
|        |             | Aluminum, Total        | 23.6   | u UG/L | 23.6               | 1.0                |
|        |             | Arsenic, Total         | 6.1    | u UG/L | 6.1                | 1.0                |
|        |             | Boron, Total           | 2.4    | u UG/L | 2.4                | 1.0                |
|        |             | Barium, Total          | 0.20   | u UG/L | 0.20               | 1.0                |
|        |             | Beryllium, Total       | 0.20   | u UG/L | 0.20               | 1.0                |
|        |             | Bismuth, Total         | 5.1    | u UG/L | 5.1                | 1.0                |
|        |             | Calcium, Total         | 21.9   | u UG/L | 21.9               | 1.0                |
|        |             | Cadmium, Total         | 0.70   | u UG/L | 0.70               | 1.0                |
|        |             | Cobalt, Total          | 1.4    | u UG/L | 1.4                | 1.0                |
|        |             | Chromium, Total        | 1.3    | u UG/L | 1.3                | 1.0                |
|        |             | Copper, Total          | 1.5    | u UG/L | 1.2                | 1.0                |
|        |             | Iron, Total            | 5.4    | u UG/L | 5.4                | 1.0                |
|        |             | Potassium, Total       | 771    | u UG/L | 771                | 1.0                |
|        |             | Lithium, Total         | 0.30   | u UG/L | 0.30               | 1.0                |
|        |             | Magnesium, Total       | 39.1   | u UG/L | 39.1               | 1.0                |
|        |             | Manganese, Total       | 3.2    | u UG/L | 3.2                | 1.0                |
|        |             | Molybdenum, Total      | 2.9    | u UG/L | 2.9                | 1.0                |
|        |             | Sodium, Total          | 25.1   | u UG/L | 25.1               | 1.0                |
|        |             | Nickel, Total          | 2.4    | u UG/L | 2.4                | 1.0                |
|        |             | Phosphorus, Total      | 9.0    | u UG/L | 9.0                | 1.0                |
|        |             | Lead, Total            | 3.1    | u UG/L | 3.1                | 1.0                |
|        |             | Antimony, Total        | 4.4    | u UG/L | 4.4                | 1.0                |
|        |             | Selenium, Total        | 4.7    | u UG/L | 4.7                | 1.0                |
|        |             | Silicon, Total         | 22.7   | u UG/L | 22.7               | 1.0                |
|        |             | Tin, Total             | 10.7   | u UG/L | 10.7               | 1.0                |
|        |             | Strontium, Total       | 0.10   | u UG/L | 0.10               | 1.0                |
|        |             | Thallium, Total        | 7.0    | u UG/L | 7.0                | 1.0                |
|        |             | Uranium, Total         | 8.8    | u UG/L | 8.8                | 1.0                |
|        |             | Vanadium, Total        | 0.90   | u UG/L | 0.90               | 1.0                |
|        |             | Zinc, Total            | 1.6    | u UG/L | 1.6                | 1.0                |
| BLANK1 | 06C0057-MB1 | Mercury, Total         | 0.10   | u UG/L | 0.10               | 1.0                |
| BLANK2 | 06C0057-MB2 | Mercury, TCLP Leachate | 0.10   | u UG/L | 0.10               | 1.0                |

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Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 05/11/06

CLIENT: TNUHANFORD RC-048 K0277

LVL LOT #: 0603L617

WORK ORDER: 11343-606-001-9999-00

| SAMPLE | SITE ID     | ANALYTE         | SPIKED | SPIKED | UNITS | %RECOV |
|--------|-------------|-----------------|--------|--------|-------|--------|
|        |             |                 | SAMPLE | AMOUNT |       |        |
| -----  | -----       | -----           | -----  | -----  | ----- | -----  |
| LCS1   | 06L0195-LC1 | Silver, LCS     | 495    | 500    | UG/L  | 99.0   |
|        |             | Aluminum, LCS   | 4930   | 5000   | UG/L  | 98.5   |
|        |             | Arsenic, LCS    | 9570   | 10000  | UG/L  | 95.7   |
|        |             | Boron, LCS      | 4820   | 5000   | UG/L  | 96.3   |
|        |             | Barium, LCS     | 4920   | 5000   | UG/L  | 98.5   |
|        |             | Beryllium, LCS  | 244    | 250    | UG/L  | 99.1   |
|        |             | Bismuth, LCS    | 4960   | 5000   | UG/L  | 99.2   |
|        |             | Calcium, LCS    | 25700  | 25000  | UG/L  | 102.6  |
|        |             | Cadmium, LCS    | 241    | 250    | UG/L  | 96.3   |
|        |             | Cobalt, LCS     | 2450   | 2500   | UG/L  | 97.8   |
|        |             | Chromium, LCS   | 489    | 500    | UG/L  | 97.8   |
|        |             | Copper, LCS     | 1240   | 1250   | UG/L  | 98.9   |
|        |             | Iron, LCS       | 4970   | 5000   | UG/L  | 99.4   |
|        |             | Potassium, LCS  | 23500  | 25000  | UG/L  | 93.9   |
|        |             | Lithium, LCS    | 5220   | 5000   | UG/L  | 104.5  |
|        |             | Magnesium, LCS  | 24200  | 25000  | UG/L  | 96.7   |
|        |             | Manganese, LCS  | 746    | 750    | UG/L  | 99.4   |
|        |             | Molybdenum, LCS | 4980   | 5000   | UG/L  | 99.5   |
|        |             | Sodium, LCS     | 23200  | 25000  | UG/L  | 92.8   |
|        |             | Nickel, LCS     | 1950   | 2000   | UG/L  | 97.3   |
|        |             | Phosphorus, LCS | 4810   | 5000   | UG/L  | 96.1   |
|        |             | Lead, LCS       | 2420   | 2500   | UG/L  | 97.0   |
|        |             | Antimony, LCS   | 2950   | 3000   | UG/L  | 98.4   |
|        |             | Selenium, LCS   | 9840   | 10000  | UG/L  | 98.4   |
|        |             | Silicon, LCS    | 4810   | 5000   | UG/L  | 96.1   |
|        |             | Tin, LCS        | 4930   | 5000   | UG/L  | 98.6   |
|        |             | Strontium, LCS  | 4990   | 5000   | UG/L  | 99.8   |
|        |             | Thallium, LCS   | 9720   | 10000  | UG/L  | 97.2   |
|        |             | Uranium, LCS    | 2470   | 2500   | UG/L  | 98.6   |
|        |             | Vanadium, LCS   | 2450   | 2500   | UG/L  | 97.9   |
|        |             | Zinc, LCS       | 972    | 1000   | UG/L  | 97.2   |
| LCS1   | 06C0057-LC1 | Mercury, LCS    | 4.9    | 5.0    | UG/L  | 98.8   |

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See SRC

ORIGINAL  
REWRITTEN

|   |                 |   |                    |  |                          |                                      |                      |  |  |           |  |  |  |  |  |
|---|-----------------|---|--------------------|--|--------------------------|--------------------------------------|----------------------|--|--|-----------|--|--|--|--|--|
| <b>Washington Closure Hanford</b>   |                 | <b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b> |                    |  |                          | <b>RC-048-247</b>                    |                      | Page 1 of 1  |  |           |  |  |  |  |  |
| Collector<br>TILLER, B  |                 | Company Contact<br>JOAN KESSNER                 |                    | Telephone No.<br>375-4688                          |                          | Project Coordinator<br>KESSNER, JH   |                      | Price Code 7N      Data Turnaround<br>45 Days  |  |           |  |  |  |  |  |
| Project Designation<br>100 Area and 300 Area Component of the RCBRA Water Sa  |                 | Sampling Location<br>WATER EQUIPMENT BLANK      |                    | SAF No.<br>RC-048                                  |                          | Air Quality <input type="checkbox"/> |                      |  |  |           |  |  |  |  |  |
| Ice Chest No. <b>AFS-04-035</b>   |                 | Field Logbook No.<br>EL-1597                    |                    | COA<br>BESRAS6520                                  |                          | Method of Shipment<br>FED EX         |                      |  |  |           |  |  |  |  |  |
| Shipped To<br>EBERLINE SERVICES (LIONVILLE)   |                 | Offsite Property No. <b>A060343</b>             |                    | Bill of Lading/Air Bill No.<br>SEE OSCP            |                          |                                      |                      |  |  |           |  |  |  |  |  |
| <b>POSSIBLE SAMPLE HAZARDS/REMARKS</b><br>POTENTIAL RADIOACTIVE < DOT LIMITS<br><br><b>Special Handling and/or Storage</b><br>COOL 4C |                 |   |                    | <b>Preservation</b>                                | HNO3 to pH<br><2         | Cool 4C                              | Cool 4C              | Cool 4C  |  |           |  |  |  |  |  |
|   |                 |   |                    | <b>Type of Container</b>                           | G/P                      | uG                                   | uG                   | uG   |  |           |  |  |  |  |  |
|   |                 |   |                    | <b>No. of Container(s)</b>                         | 1                        | 10                                   | 1                    | 10   |  |           |  |  |  |  |  |
|   |                 |   |                    | <b>Volume</b>                                      | 250mL                    | 1000mL                               | 1000mL               | 1000mL   |  |           |  |  |  |  |  |
| <b>SAMPLE ANALYSIS</b>  |                 |   |                    | See test (1) in<br>Special<br>Instructions.        | Sem-VOA -<br>8270A (TCL) | PCBs - 8082                          | Pesticides -<br>8081 |  |  |           |  |  |  |  |  |
|   |                 |   |                    |  |                          |                                      |                      |  |  |           |  |  |  |  |  |
| <b>Sample No.</b>   | <b>Matrix *</b> | <b>Sample Date</b>                              | <b>Sample Time</b> |  |                          |                                      |                      |  |  |           |  |  |  |  |  |
| J11234  | WATER           | 03-23-06  | 1530               | X  | X                        | X                                    | X                    |  |  |           |  |  |  |  |  |
|   |                 |   |                    |  |                          |                                      |                      |  |  |           |  |  |  |  |  |
|   |                 |   |                    |  |                          |                                      |                      |  |  |           |  |  |  |  |  |
|   |                 |   |                    |  |                          |                                      |                      |  |  |           |  |  |  |  |  |
|   |                 |   |                    |  |                          |                                      |                      |  |  |           |  |  |  |  |  |
|   |                 |   |                    |  |                          |                                      |                      |  |  |           |  |  |  |  |  |
| <b>CHAIN OF POSSESSION</b>  |                 |   |                    | <b>Sign/Print Names</b>                            |                          |                                      |                      | <b>SPECIAL INSTRUCTIONS</b>  |  |           |  | <b>Matrix *</b>  |  |  |  |
| Relinquished By/Removed From<br><b>BRETT TILLER</b>   |                 | Date/Time<br>03-23-06 1540                      |                    | Received By/Stored In<br><b>EAS LOCKED STORAGE</b> |                          | Date/Time<br>03-23-06 1540           |                      | (1) ICP Metals - 6010 (Foil List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc); Mercury - 7470 - (CV)<br><br><b>NOTE: PERFORM PCB, PEST, AND SVOC IN THIS ORDER AS SAMPLE MASS IS AVAILABLE.</b> |  |           |  | S=Soil<br>SF=Soil/Feces<br>SO=Solid<br>SL=Sludge<br>W=Water<br>O=Oil<br>A=Air<br>DS=Drum Solids<br>DL=Drum Liquids<br>T=Tissue<br>WL=Wipe<br>L=Liquid<br>V=Vegetation<br>X=Other |  |  |  |
| Relinquished By/Removed From<br><b>EAS LOCKED STORAGE</b>   |                 | Date/Time<br>03-23-06 0900                      |                    | Received By/Stored In<br><b>FEDEX</b>              |                          | Date/Time<br>03-23-06 0900           |                      |  |  |           |  |  |  |  |  |
| Relinquished By/Removed From<br><b>J. E. Edmundson</b>  |                 | Date/Time<br>03-23-06 1500                      |                    | Received By/Stored In<br><b>FEDEX</b>              |                          | Date/Time<br>03-23-06 1500           |                      |  |  |           |  |  |  |  |  |
| Relinquished By/Removed From<br><b>FEDEX</b>  |                 | Date/Time<br>03-28-06 1000                      |                    | Received By/Stored In<br><b>J. E. Edmundson</b>    |                          | Date/Time<br>03-28-06 1000           |                      |  |  |           |  |  |  |  |  |
| Relinquished By/Removed From  |                 | Date/Time                                       |                    | Received By/Stored In                              |                          | Date/Time                            |                      |  |  |           |  |  |  |  |  |
| Relinquished By/Removed From  |                 | Date/Time                                       |                    | Received By/Stored In                              |                          | Date/Time                            |                      |  |  |           |  |  |  |  |  |
| <b>LABORATORY SECTION</b>   |                 | Received By                                     |                    |  |                          | Title                                |                      |  |  | Date/Time |  |  |  |  |  |
| <b>FINAL SAMPLE DISPOSITION</b>   |                 | Disposal Method                                 |                    |  |                          | Disposed By                          |                      |  |  | Date/Time |  |  |  |  |  |

**Lionville Laboratory Incorporated**  
**SAMPLE RECEIPT CHECKLIST (SRC)**

CLIENT: TNU Hartford

Date: 3-28-06

Purchase Order / Project# / RC-048  
 SAF# / SOW# / Release #:

LvLI Batch #:

Sample Custodian:

06032617

*[Signature]*

NOTE: EXPLAIN ALL DISCREPANCIES

- |   |   |  |
|---|---|--|
| 1. Samples Hand Delivered or <u>Shipped</u>   | Carrier <u>Fed Ex</u>   | Airbill# <u>7918 9827 762</u>                        |
| 2. Custody seals on coolers or shipping container intact, signed and dated?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals      Comments      |
| 3. Outside of coolers or shipping containers are free from damage?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 4. All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 5. Samples received <u>cooled</u> or ambient?<br><i>IR.</i>   | Temp <u>2-0</u> °C  | Cooler # <u>AFS-04 035</u>                           |
| 6. Custody seals on sample containers intact, signed and dated?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals                    |
| 7. coc signed and dated?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 8. Sample containers are intact?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 9. All samples on coc received? All samples received on coc?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 10. All sample label information matches coc?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 11. Samples properly preserved?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 12. Samples received within hold times? Short holds taken to wet lab?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 13. VOA, TOC, TOX free of headspace?  | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input checked="" type="checkbox"/> N/A              |
| 14. QC stickers placed on bottles designated by client?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> N/A                         |
| 15. Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles not within policy. See reverse side for policy)     | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 16. Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)                             | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input checked="" type="checkbox"/> No Discrepancies |

SR-002-B



000000013

Lionville Laboratory, Inc.  
 PEST/PCB ANALYTICAL DATA PACKAGE FOR  
 TNUHANFORD RC-048 K0277



DATE RECEIVED: 03/28/06

LVL LOT # 0603L617

| CLIENT ID | LVL # | MTX | PREP #   | COLLECTION | EXTR/PREP | ANALYSIS |
|-----------|-------|-----|----------|------------|-----------|----------|
| J11234    | 001   | W   | 06LE0248 | 03/23/06   | 03/30/06  | 04/07/06 |

LAB QC:

|        |         |   |          |     |          |          |
|--------|---------|---|----------|-----|----------|----------|
| PBLKEM | MB1     | W | 06LE0248 | N/A | 03/30/06 | 04/07/06 |
| PBLKEM | MB1 BS  | W | 06LE0248 | N/A | 03/30/06 | 04/07/06 |
| PBLKEM | MB1 BSD | W | 06LE0248 | N/A | 03/30/06 | 04/07/06 |

*For 1/26*



## Case Narrative

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**Client:** TNU-HANFORD RC-048  
**LVL #:** 0603L617  
**SDG/SAF #** K0277/RC-048

**W.O. #:** 11343-606-001-9999-00  
**Date Received:** 03-28-2006

### CHLORINATED PESTICIDES

One (1) water sample was collected on 03-23-2006.

The sample and its associated QC samples were extracted on 03-30-2006 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedures on 04-07-2006. The extraction procedure was based on method 3520C and the extracts were analyzed based on method 8081A.


The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

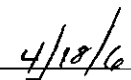
1. All results presented in this report are derived from a sample that met LvLI's sample acceptance.
2. The sample was extracted and analyzed within required holding time.
3. The sample and its associated QC samples received a Copper-Sulfur cleanup according to Lionville Laboratory SOPs based on SW846 method 3660A.
4. The method blank was below the reporting limits for all target compounds.
5. One (1) of eight (8) surrogate recoveries was outside acceptance criteria. However, the surrogate recovery criteria were met (i.e., no more than one outlier per sample).
6. All blank spike recoveries were within acceptance criteria.
7. Due to insufficient sample volume, matrix QC could not be performed on the sample in this data set. However, the blank spike QC was performed with the sample to demonstrate that systems were in control.
8. The initial calibrations associated with this data set were within acceptance criteria.
9. The continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 8 pages.



10. LvLI is NELAP accredited by the state of Pennsylvania and holds over 20 additional state accreditations. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.
11. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the laboratory Manager or a designee, as verified by the following signature.

  
Iain Daniels  
Laboratory Manager  
Lionville Laboratory Incorporated

  
Date

som\vr\group\data\pest\tnu hanford\0603-617s.pst



## GLOSSARY OF DATA

### DATA QUALIFIERS

|    |   |   |
|----|---|---|
| U  | = | Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).  |
| J  | = | Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J. |
| B  | = | This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination.   |
| E  | = | Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.  |
| I  | = | Interference.   |
| .I | = | Indicates an interference on one analytical column only. Result is reported from remaining analytical column.   |

### ABBREVIATIONS

|     |   |  |
|-----|---|--|
| BS  | = | Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps in the method. Spike recoveries are reported.   |
| BSD | = | Indicates blank spike duplicate.   |
| MS  | = | Indicates matrix spike.  |
| MSD | = | Indicates matrix spike duplicate.  |
| DL  | = | Indicates that recoveries were not obtained because the extract had to be diluted for analysis.  |
| NA  | = | Not Applicable.  |
| DF  | = | Dilution Factor.   |
| NR  | = | Not Required.  |
| NS  | = | Not Spiked.  |
| SP  | = | Indicates Spiked Compound.   |
| P   | = | This flag is used for an PESTICIDE/PCB target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form I and flagged with a "P". |
| D   | = | This flag identifies all compounds identified in an analysis at a secondary dilution factor.   |
| C   | = | This flag applies to a compound that has been confirmed by GC/MS.  |
| NPM | = | No pattern match for multi-component target analytes.  |

RFW Batch Number: 0603L617

Client: TNUHANFORD RC-048 K0277 Work Order: 11343606001 Page: 1

Report Date: 04/13/06 11:27

|                       | Cust ID: | J11234 | PBLKEM       | PBLKEM BS    | PBLKEM BSD   |
|-----------------------|----------|--------|--------------|--------------|--------------|
| Sample<br>Information | RFW#:    | 001    | 06LE0248-MB1 | 06LE0248-MB1 | 06LE0248-MB1 |
|                       | Matrix:  | WATER  | WATER        | WATER        | WATER        |
|                       | D.F.:    | 1.00   | 1.00         | 1.00         | 1.00         |
|                       | Units:   | UG/L   | UG/L         | UG/L         | UG/L         |

| Surrogate:          | Tetrachloro-m-xylene | 42 %    | 95 %   | 77 %   | 84 % |
|---------------------|----------------------|---------|--------|--------|------|
|                     | Decachlorobiphenyl   | 15 * %  | 92 %   | 83 %   | 88 % |
|                     |                      | fl      | fl     | fl     | fl   |
| Alpha-BHC           | 0.33 U               | 0.050 U | 92 %   | 106 %  |      |
| gamma-BHC (Lindane) | 0.33 U               | 0.050 U | 93 %   | 106 %  |      |
| Beta-BHC            | 0.33 U               | 0.050 U | 85 %   | 97 %   |      |
| Heptachlor          | 0.33 U               | 0.050 U | 83 %   | 88 %   |      |
| Delta-BHC           | 0.33 U               | 0.050 U | 86 %   | 100 %  |      |
| Aldrin              | 0.33 U               | 0.050 U | 86 %   | 91 %   |      |
| Heptachlor epoxide  | 0.33 U               | 0.050 U | 92 %   | 106 %  |      |
| gamma-Chlordane     | 0.33 U               | 0.050 U | 91 %   | 104 %  |      |
| Endosulfan I        | 0.33 U               | 0.050 U | 92 %   | 107 %  |      |
| alpha-Chlordane     | 0.33 U               | 0.050 U | 91 %   | 105 %  |      |
| 4,4'-DDE            | 0.33 U               | 0.050 U | 91 %   | 105 %  |      |
| Dieldrin            | 0.33 U               | 0.050 U | 95 %   | 112 %  |      |
| Endrin              | 0.33 U               | 0.050 U | 94 %   | 111 %  |      |
| 4,4'-DDD            | 0.33 U               | 0.050 U | 89 %   | 102 %  |      |
| Endosulfan II       | 0.33 U               | 0.050 U | 93 %   | 108 %  |      |
| 4,4'-DDT            | 0.33 U               | 0.050 U | 94 %   | 111 %  |      |
| Endrin aldehyde     | 0.33 U               | 0.050 U | 84 %   | 97 %   |      |
| Endosulfan sulfate  | 0.33 U               | 0.050 U | 88 %   | 103 %  |      |
| Methoxychlor        | 0.33 U               | 0.050 U | 91 %   | 104 %  |      |
| Endrin ketone       | 0.33 U               | 0.050 U | 93 %   | 107 %  |      |
| Toxaphene           | 3.3 U                | 0.50 U  | 0.50 U | 0.50 U |      |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.  
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. \*= Outside of EPA CLP QC

7/31/16

See SRC

0603L617

| Relinquished by | Received by | Date    | Time |
|-----------------|-------------|---------|------|
| PSA             | Smith       | 3-28-06 | 0920 |
|                 |             |         |      |
|                 |             |         |      |

| Relinquished by | Received by | Date | Time |
|-----------------|-------------|------|------|
|                 |             |      |      |
|                 |             |      |      |
|                 |             |      |      |

| Relinquished by | Received by | Date      | Time |
|-----------------|-------------|-----------|------|
| COMPOSITE       |             | ORIGINAL  |      |
| WASTE           |             | REWRITTEN |      |
|                 |             |           |      |

| Washington Closure Hanford  |          | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST    |                           |   |                      | RC-048-247                           |           | Page 1 of 1  |  |  |
|---|----------|---|---------------------------|---|----------------------|--------------------------------------|-----------|--|--|--|
| Collector<br>TILLER, B  |          | Company Contact<br>JOAN KESSNER             |                           | Telephone No.<br>375-4688                   |                      | Project Coordinator<br>KESSNER, JH   |           | Price Code 7N Data Turnaround<br>45 Days   |  |  |
| Project Designation<br>100 Area and 300 Area Component of the RCBRA Water Sa  |          | Sampling Location<br>WATER EQUIPMENT BLANK  |                           | SAF No.<br>RC-048                           |                      | Air Quality <input type="checkbox"/> |           |  |  |  |
| Ice Chest No. <i>AFS-04-035</i>   |          | Field Logbook No.<br>EL-1597                |                           | COA<br>BESRAS6520                           |                      | Method of Shipment<br>FED EX         |           |  |  |  |
| Shipped To<br>EBERLINE SERVICES <i>LIONVILLE</i>  |          | Offsite Property No. <i>A060343</i>         |                           | Bill of Lading/Air Bill No.<br>SEE OSPC     |                      |                                      |           |  |  |  |
| POSSIBLE SAMPLE HAZARDS/REMARKS<br><br>POTENTIAL RADIOACTIVE < DOT LIMITS<br><br>Special Handling and/or Storage<br>COOL 4C |          | Preservation                                | HNO3 to pH<br><2          | Cool 4C                                     | Cool 4C              | Cool 4C                              |           |  |  |  |
|   |          | Type of Container                           | G/P                       | gG  | <i>10</i>            | <i>10</i>                            | <i>10</i> |  |  |  |
|   |          | No. of Container(s)                         | 1                         | <i>10</i>                                   | <i>10</i>            | <i>10</i>                            | <i>10</i> |  |  |  |
|   |          | Volume                                      | 250mL                     | 1000mL                                      | 1000mL               | 1000mL                               | 1000mL    |  |  |  |
| SAMPLE ANALYSIS   |          | See item (1) in<br>Special<br>Instructions. | Some VOA -<br>8270A (TCL) | PCBs - 8082                                 | Pesticides -<br>8081 |                                      |           |  |  |  |
|   |          |   |                           |   |                      |                                      |           |  |  |  |
| Sample No.  | Matrix * | Sample Date                                 | Sample Time               |   |                      |                                      |           |  |  |  |
| J11234  | WATER    | 03-23-06                                    | 1530                      | X   | X                    | X                                    | X         |  |  |  |
|   |          |   |                           |   |                      |                                      |           |  |  |  |
|   |          |   |                           |   |                      |                                      |           |  |  |  |
|   |          |   |                           |   |                      |                                      |           |  |  |  |
|   |          |   |                           |   |                      |                                      |           |  |  |  |
| CHAIN OF POSSESSION   |          |   |                           | SPECIAL INSTRUCTIONS                        |                      |                                      |           | Matrix *   |  |  |
| Relinquished By/Removed From<br>BRETT TILLER  |          | Date/Time<br>03-23-06 1540                  |                           | Received By/Stored In<br>EAS LOCKED STORAGE |                      | Date/Time<br>03-23-06 1540           |           | (1) ICP Metals - 6010 (Full List) [Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc]; Mercury - 7470 - (CV)<br><br>NOTE: PERFORM PCB, PEST, AND SVOC IN THIS ORDER<br>AS SAMPLE MASS IS AVAILABLE. |  |  |
| Relinquished By/Removed From<br>EAS LOCKED STORAGE  |          | Date/Time<br>03-23-06 0900                  |                           | Received By/Stored In<br>FED EX             |                      | Date/Time<br>03-23-06 0900           |           |  |  |  |
| Relinquished By/Removed From<br>FED EX  |          | Date/Time<br>03-23-06 1500                  |                           | Received By/Stored In<br>FED EX             |                      | Date/Time<br>03-23-06 1500           |           |  |  |  |
| Relinquished By/Removed From<br>FED EX  |          | Date/Time<br>03-28-06 0900                  |                           | Received By/Stored In<br>FED EX             |                      | Date/Time<br>03-28-06 0900           |           |  |  |  |
| Relinquished By/Removed From  |          | Date/Time                                   |                           | Received By/Stored In                       |                      | Date/Time                            |           |  |  |  |
| Relinquished By/Removed From  |          | Date/Time                                   |                           | Received By/Stored In                       |                      | Date/Time                            |           |  |  |  |
| LABORATORY SECTION  |          | Received By                                 |                           | Title                                       |                      | Date/Time                            |           |  |  |  |
| FINAL SAMPLE DISPOSITION  |          | Disposal Method                             |                           | Disposed By                                 |                      | Date/Time                            |           |  |  |  |

Lionville Laboratory Incorporated  
SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU Hartford

Date: 3-28-06

Purchase Order / Project# /  
SAF# / SOW# / Release #: RC-048

LvLI Batch #:

Sample Custodian:

06031617

*[Signature]*

NOTE: EXPLAIN ALL DISCREPANCIES

- |   |   |  |
|---|---|--|
| 1. Samples Hand Delivered or Shipped  | Carrier <i>Med Ex</i>   | Airbill# 7918 9827 762                               |
| 2. Custody seals on coolers or shipping container intact, signed and dated?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals    Comments        |
| 3. Outside of coolers or shipping containers are free from damage?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 4. All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 5. Samples received <u>cooled</u> or ambient?<br><span style="margin-left: 100px;"><i>IR.</i></span>                        | Temp <i>2.0</i> °C  | Cooler # <i>AFS-04 035</i>                           |
| 6. Custody seals on sample containers intact, signed and dated?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals                    |
| 7. coc signed and dated?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 8. Sample containers are intact?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 9. All samples on coc received? All samples received on coc?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 10. All sample label information matches coc?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 11. Samples properly preserved?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 12. Samples received within hold times?<br>Short holds taken to wet lab?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 13. VOA, TOC, TOX free of headspace?  | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input checked="" type="checkbox"/> N/A              |
| 14. QC stickers placed on bottles designated by client?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> N/A                         |
| 15. Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles not within policy. See reverse side for policy)     | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 16. Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)                             | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input checked="" type="checkbox"/> No Discrepancies |

SR-002-B



0000000000

Lionville Laboratory, Inc.  
PCB ANALYTICAL DATA PACKAGE FOR  
TNUHANFORD RC-048 K0277

DATE RECEIVED: 03/28/06

LVL LOT # :0603L617

| CLIENT ID | LVL # | MTX | PREP #   | COLLECTION | EXTR/PREP | ANALYSIS |
|-----------|-------|-----|----------|------------|-----------|----------|
| J11234    | 001   | W   | 06LE0248 | 03/23/06   | 03/30/06  | 04/06/06 |

LAB QC:

|        |         |   |          |     |          |          |
|--------|---------|---|----------|-----|----------|----------|
| PBLKEM | MB1     | W | 06LE0248 | N/A | 03/30/06 | 04/06/06 |
| PBLKEM | MB1 BS  | W | 06LE0248 | N/A | 03/30/06 | 04/06/06 |
| PBLKEM | MB1 BSD | W | 06LE0248 | N/A | 03/30/06 | 04/06/06 |

*Handwritten signature/initials*



## Case Narrative

---

**Client:** TNU-HANFORD RC-048  
**LVL #:** 0603L617  
**SDG/SAF #** K0277/RC-048

**W.O. #:** 11343-606-001-9999-00  
**Date Received:** 03-28-2006

### PCB

One (1) water sample was collected on 03-23-2006.

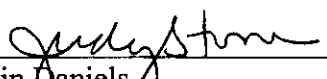
The sample and its associated QC samples were extracted on 03-30-2006 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedures on 04-06-2006. The extraction procedure was based on method 3520C and the extracts were analyzed based on method 8082.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

1. All results presented in this report are derived from a sample that met LvLI's sample acceptance policy.
2. The sample was extracted and analyzed within required holding time.
3. The sample and its associated QC samples received Copper-Sulfur and Sulfuric Acid cleanups according to Lionville Laboratory SOPs based on SW846 methods 3660A and 3665A respectively.
4. The method blank was below the reporting limits for all target compounds.
5. One (1) of eight (8) surrogate recoveries were outside acceptance criteria. However, the surrogate recovery acceptance criteria were met (i.e. no more than one outlier per sample).
6. All blank spike recoveries were within acceptance criteria.
7. Matrix spike QC was not performed on any samples in this data set. However, blank spike QC was performed with these samples to demonstrate that systems were in control.
8. The initial calibrations associated with this data set were within acceptance criteria.
9. The continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 8 pages.

10. LvLI is NELAP accredited by the state of Pennsylvania and holds over 20 additional state accreditations. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.
11. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the laboratory Manager or a designee, as verified by the following signature.

  
Iain Daniels  
Laboratory Manager  
Lionville Laboratory Incorporated

4/18/06  
Date

kim\\r:\group\data\pest\tnu hanford\0603-617.pchs





## GLOSSARY OF DATA

### DATA QUALIFIERS

- U = Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).
- J = Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
- B = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination.
- E = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
- I = Interference.
- .I = Indicates an interference on one analytical column only. Result is reported from remaining analytical column.

### ABBREVIATIONS

- BS = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps in the method. Spike recoveries are reported.
- BSD = Indicates blank spike duplicate.
- MS = Indicates matrix spike.
- MSD = Indicates matrix spike duplicate.
- DL = Indicates that recoveries were not obtained because the extract had to be diluted for analysis.
- NA = Not Applicable.
- DF = Dilution Factor.
- NR = Not Required.
- NS = Not Spiked.
- SP = Indicates Spiked Compound.
- P = This flag is used for an PESTICIDE/PCB target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form I and flagged with a "P".
- D = This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- C = This flag applies to a compound that has been confirmed by GC/MS.
- NPM = No pattern match for multi-component target analytes.

RFW Batch Number: 0603L617

Client: **TNUHANFORD RC-048 K0277**

Work Order: 11343606001 Page: 1

Page: 1

|                       | Cust ID: | J11234 | PBLKEM       | PBLKEM BS    | PBLKEM BSD   |
|-----------------------|----------|--------|--------------|--------------|--------------|
| Sample<br>Information | RFW#:    | 001    | 06LE0248-MB1 | 06LE0248-MB1 | 06LE0248-MB1 |
|                       | Matrix:  | WATER  | WATER        | WATER        | WATER        |
|                       | D.F.:    | 1.00   | 1.00         | 1.00         | 1.00         |
|                       | Units:   | UG/L   | UG/L         | UG/L         | UG/L         |

| Surrogate:   | Tetrachloro-m-xylene | 43 %   | 99 %   | 92 %   | 97 %   |
|--------------|----------------------|--------|--------|--------|--------|
|              | Decachlorobiphenyl   | 20 * % | 106 %  | 110 %  | 113 %  |
|              |                      | fl     | fl     | fl     | fl     |
| Aroclor-1016 |                      | 2.7 U  | 0.40 U | 93 %   | 107 %  |
| Aroclor-1221 |                      | 2.7 U  | 0.40 U | 0.40 U | 0.40 U |
| Aroclor-1232 |                      | 2.7 U  | 0.40 U | 0.40 U | 0.40 U |
| Aroclor-1242 |                      | 2.7 U  | 0.40 U | 0.40 U | 0.40 U |
| Aroclor-1248 |                      | 2.7 U  | 0.40 U | 0.40 U | 0.40 U |
| Aroclor-1254 |                      | 2.7 U  | 0.40 U | 0.40 U | 0.40 U |
| Aroclor-1260 |                      | 2.7 U  | 0.40 U | 105 %  | 115 %  |

7/11/16

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.  
 % = Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. \*= Outside of EPA CLP QC

00000005

See SRC

|                      |        |         |     |      |     |      |      |      |     |        |        |    |  |  |  |  |  |  |  |  |
|----------------------|--------|---------|-----|------|-----|------|------|------|-----|--------|--------|----|--|--|--|--|--|--|--|--|
| Refrigerator #       |        |         |     | 2    |     |      |      |      |     |        |        |    |  |  |  |  |  |  |  |  |
| #/Type Container     | Liquid |         |     | 1g   |     |      |      |      |     |        |        |    |  |  |  |  |  |  |  |  |
|                      | Solids |         |     |      |     |      |      |      |     |        |        |    |  |  |  |  |  |  |  |  |
| Volume               | Liquid |         |     | 250  |     |      |      |      |     |        |        |    |  |  |  |  |  |  |  |  |
|                      | Solids |         |     |      |     |      |      |      |     |        |        |    |  |  |  |  |  |  |  |  |
| Preservatives        |        |         |     |      |     |      |      |      |     |        |        |    |  |  |  |  |  |  |  |  |
| ANALYSES REQUESTED → |        | ORGANIC |     |      |     |      | Pest | SVOC | PCB | Metals | INORG  |    |  |  |  |  |  |  |  |  |
|                      |        | VOA     | BNA | Pest | PCB | Herb |      |      |     |        | Metals | CN |  |  |  |  |  |  |  |  |

| Relinquished<br>by | Received<br>by | Date                  | Time |
|--------------------|----------------|-----------------------|------|
| COMPOSITE<br>WASTE |                | ORIGINAL<br>REWRITTEN |      |

|   |          |   |             |  |                           |   |                      |  |  |
|---|----------|---|-------------|--|---------------------------|---|----------------------|--|--|
| Washington Closure Hanford  |          | <b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b> |             |  |                           | RC-048-247                              |                      | Page 1 of 1  |  |
| Collector<br>TILLER, B  |          | Company Contact<br>JOAN KESSNER                 |             | Telephone No.<br>375-4688                          |                           | Project Coordinator<br>KESSNER, JH      |                      | Price Code 7N      Data Turnaround<br>45 Days  |  |
| Project Designation<br>100 Area and 300 Area Component of the RCBRA Water Sa    |          | Sampling Location<br>WATER EQUIPMENT BLANK      |             | SAF No.<br>RC-048                                  |                           | Air Quality <input type="checkbox"/>    |                      |  |  |
| Ice Chest No. <i>AFS-04-035</i>   |          | Field Logbook No.<br>EL-1597                    |             | COA<br>BESRAS6520                                  |                           | Method of Shipment<br>FED EX            |                      |  |  |
| Shipped To<br>EBERLINE SERVICES <i>LIONVILLE</i>                                |          | Offsite Property No. <i>A060343</i>             |             |  |                           | Bill of Lading/Air Bill No.<br>SBB OSCP |                      |  |  |
| POSSIBLE SAMPLE HAZARDS/REMARKS<br><i>POTENTIAL RADIOACTIVE &lt; DOT LIMITS</i> |          | Preservation                                    |             | HN03 to pH<br><2                                   | Cool 4C                   | Cool 4C                                 | Cool 4C              |  |  |
|   |          | Type of Container                               |             | G/P  | aG                        | <i>1G</i>                               | aG                   |  |  |
|   |          | No. of Container(s)                             |             | 1  | <i>10</i>                 | 1                                       | <i>10</i>            |  |  |
|   |          | Volume  |             | 250mL  | 1000mL                    | <i>1000mL</i>                           | 1000mL               |  |  |
| Special Handling and/or Storage<br><i>COOL 4C</i>                               |          | SAMPLE ANALYSIS                                 |             | See Item (1) in<br>Special<br>Instructions.        | Seam VOA -<br>8270A (TCL) | PCBs - 8082                             | Pesticides -<br>8081 |  |  |
|   |          |   |             |  |                           |   |                      |  |  |
|   |          |   |             |  |                           |   |                      |  |  |
|   |          |   |             |  |                           |   |                      |  |  |
| Sample No.  | Matrix * | Sample Date                                     | Sample Time |  |                           |   |                      |  |  |
| J11234  | WATER    | 03-23-06  | 1530        | X  | X                         | X                                       | X                    |  |  |
|   |          |   |             |  |                           |   |                      |  |  |
|   |          |   |             |  |                           |   |                      |  |  |
|   |          |   |             |  |                           |   |                      |  |  |
|   |          |   |             |  |                           |   |                      |  |  |
|   |          |   |             |  |                           |   |                      |  |  |
| CHAIN OF POSSESSION   |          |   |             | Sign/Print Names                                   |                           | SPECIAL INSTRUCTIONS                    |                      |  |  |
| Relinquished By/Removed From<br><b>BRETT TILLER</b>                             |          | Date/Time<br>03-23-06 1540                      |             | Received By/Stored In<br><b>EAS LOCKED STORAGE</b> |                           | Date/Time<br>03-23-06 1540              |                      | (1) ICP Metals - 6010 (Full List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc); Mercury - 7470 - (CV)<br><br><b>NOTE: PERFORM PCB, PEST, AND SVOC IN THIS ORDER AS SAMPLE MASS IS AVAILABLE.</b> |  |
| Relinquished By/Removed From<br><b>EAS LOCKED STORAGE</b>                       |          | Date/Time<br>03-23-06 0900                      |             | Received By/Stored In<br><i>[Signature]</i>        |                           | Date/Time<br>03-23-06 0900              |                      |  |  |
| Relinquished By/Removed From<br><i>[Signature]</i>                              |          | Date/Time<br>03-23-06 1500                      |             | Received By/Stored In<br><b>FED EX</b>             |                           | Date/Time                               |                      |  |  |
| Relinquished By/Removed From<br><i>[Signature]</i>                              |          | Date/Time<br>03-28-06 1020                      |             | Received By/Stored In<br><i>[Signature]</i>        |                           | Date/Time<br>03-28-06 1020              |                      |  |  |
| Relinquished By/Removed From  |          | Date/Time                                       |             | Received By/Stored In                              |                           | Date/Time                               |                      |  |  |
| Relinquished By/Removed From  |          | Date/Time                                       |             | Received By/Stored In                              |                           | Date/Time                               |                      |  |  |
| LABORATORY SECTION  |          | Received By                                     |             | Title  |                           | Date/Time                               |                      |  |  |
| FINAL SAMPLE DISPOSITION  |          | Disposal Method                                 |             | Disposed By  |                           | Date/Time                               |                      |  |  |

**Lionville Laboratory Incorporated**  
**SAMPLE RECEIPT CHECKLIST (SRC)**

CLIENT: TNU Hartford

Date: 3-28-06

Purchase Order / Project# /  
 SAF# / SOW# / Release #: RC-048

LvLI Batch # :

Sample Custodian:

06031617

W. Y. Smith

NOTE: EXPLAIN ALL DISCREPANCIES

- |   |   |  |
|---|---|--|
| 1. Samples Hand Delivered or <u>Shipped</u>   | Carrier <u>FEDEX</u>  | Airbill# <u>7918 9827 762</u>                        |
| 2. Custody seals on coolers or shipping container intact, signed and dated?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals      Comments      |
| 3. Outside of coolers or shipping containers are free from damage?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 4. All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 5. Samples received <u>cooled</u> or ambient?<br><u>IR.</u>   | Temp <u>2.0</u> °C  | Cooler # <u>AFS-04 035</u>                           |
| 6. Custody seals on sample containers intact, signed and dated?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals                    |
| 7. coc signed and dated?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 8. Sample containers are intact?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 9. All samples on coc received? All samples received on coc?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 10. All sample label information matches coc?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 11. Samples properly preserved?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 12. Samples received within hold times?<br>Short holds taken to wet lab?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 13. VOA, TOC, TOX free of headspace?  | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input checked="" type="checkbox"/> N/A              |
| 14. QC stickers placed on bottles designated by client?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> N/A                         |
| 15. Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles not within policy. See reverse side for policy)     | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 16. Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)                             | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input checked="" type="checkbox"/> No Discrepancies |

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